I. Beklemishev-Petrov

Author's Original Work

Neoulmini: A Universal Mini-Language for Interspecies and Intertemporal Communication

A brief description of the language and methodology

16+

"This article is intended for readers interested in linguistics, psychology, and metaphysical abstractions. Recommended for ages 16 and older."

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Neoulmini: A Universal Mini-Language for Interspecies and Intertemporal Communication

Author: I. Beklemishchev-Petrov
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Abstract

This article presents NEOULMINI ("New Ultraminimal Language") – a minimalist universal language designed for communication between any intelligent beings, including hypothetical extraterrestrial civilizations and future generations of Earth inhabitants. The language is based on 12 iconic symbols that combine principles of semiotics, cognitive psychology, and physical constants. NEOULMINI adapts to the recipient's intellectual level, allowing the transmission of information to both primitive and highly developed beings, including artificial intelligence (hereinafter referred to as AI). The article briefly examines the grammatical rules, message examples, and potential areas of application.

1. Introduction

The problem of universal communication is relevant in the following contexts:

1. **Post-apocalyptic scenarios** (loss of linguistic heritage).
2. **Xenolinguistics** (contact with extraterrestrial intelligence).
3. **Artificial intelligence** (a language mediator for machines).

Existing systems (e.g., Lincos, Loglan) require:

1. Prior knowledge of logic/mathematics.
2. Cultural references.
3. Complex grammar.

***NEOULMINI* addresses these issues through:**

1. **Iconicity of symbols** (the form reflects the meaning).
2. **Recursive simplicity** (basic rules generate complex meanings).
3. **4 levels of interpretation** (from the concrete to the abstract).

2. Methodology

2.1. Criteria for Symbol Selection

The symbols of *NEOULMINI* are selected based on:

1. **Visual unambiguity**: distinguishable even when the medium is damaged.

2. **Cross-cultural recognizability**:
   ● — object (analogous to: stone, planet).
   → — direction (arrow, beam of light).
3. **Minimalism**: 12 symbols cover over 90% of basic concepts.

2.2. Cognitive Foundations

The language is based on universals:

- **Children and animals** understand causality (→) and objectness (●).
- **Physical constants** (light ⊙, barriers ‖) are interpreted without prior training.

3. Structure of NEOULMINI

3.1. Alphabet and Basic Meanings

№	Symbol	Name	Basic Meaning	Example Combinations
1	●	Object	Any material item	●● = "two objects"
2	→	Action	Movement, change, influence	●→● = "one object acts on another"
3	↑	Increase	Growth, amplification, many	↑● = "large object"
4	↓	Decrease	Weakening, few, destruction	↓● = "small object"
5	⊙	Energy	Light, heat, force	⊙→● = "energy acts on an object"
6	‖	Barrier	Obstacle, wall, protection	●‖● = "objects are separated by a barrier"
7	□	Container	Space, vessel	□● = "object inside something"
8	!	Danger	Threat, pain, warning	!⊙ = "dangerous energy"
9	?	Question	Unknown, information request	?● = "what is this object?"
10	§	Connection	Relation, union	●§● = "objects are connected"
11	∞	Eternity	Repetition, cycle, time	→∞ = "action is repeated"
12	⁂	System	Complex, abstraction	⁂●● = "group of objects as a system"

Note: The symbols are adapted to ASCII equivalents. In the actual language, the glyphs may vary, but the logic remains the same.

3.2. Grammatical Rules

1. **Linearity:** The order of symbols = the order of events.
   ● → ⊙ = "An object emits energy".
   ⊙ → ● = "Energy acts on an object".
2. **Grouping**:
   ●§● = "Connected objects".

3. **Levels of Complexity**:
   Level 1: ● → ! = "The object is dangerous".
   Level 4: ⁂⊙∞ = "An eternal source of energy".

4. Examples of Messages

4.1. For Primitive Intelligence

!● → ↓

"The dangerous object moves down" = "Falling meteor".

4.2. For Advanced Intelligence

□●§● → ∞

"The container of connected objects exists eternally" = "Ecosystem".

5. Applications

5.1. Future Archaeology (Message to Future Generations)

NEOULMINI recording on ceramic tablets in radiation-resistant capsules.

5.2. Interstellar Messages

Transmission via radio signals (analogous to the Arecibo message, but without numbers).

5.3. Education

Testing on AI systems, animals, and humans to study cognitive universals.

6. Limitations and Criticism

1. **Lack of expressiveness**: It is difficult to convey humor or irony.
2. **Risk of ambiguity**: ● → ‖ may mean "collision" or "protection."

7. Conclusion

NEOULMINI is an attempt to create a language independent of biology and time. Future steps include:

1. Experiments with AI and primates.
2. Development of a 3D version for tactile perception.
3. Optimization for AI and hypothetical intelligence different from humans.

Appendix

"Message to Other Worlds"

Objective: To convey basic knowledge about humanity and an invitation for contact, using only 12 symbols of NEOULMINI.

⊙ → ● → ● → ●□§? → ● → ╟●●● → ↑● → ● → ● → ∞

●□§? ● → □ ⁂□●§●§● ↓!§?

Message Structure

1. ⊙ → ● → ● → ●□§? → ● → ╟●●● → ↑● → ● → ● → ∞

"Structure of the Solar System"

Translation:

⊙ - Sun

● - Mercury

● - Venus

●□§? - Earth (●) with some structure (□), connection (§), and a question (?): "*We are here and seeking contact*"

● - Mars

╟●●● - Asteroid belt (╟ = barrier, ●●● = small bodies)

↑● - Jupiter (↑ = large)

● → ● → ● - Saturn, Uranus, Neptune

∞ - The boundaries of the system (Oort Cloud)

2. ●□§? ● → □ ⁂□●§●§● ↓!§?

"We (those here and seeking contact) know how to build, we have a complex civilization (we are intelligent), and we seek peaceful contact"

Translation:

●□§? - Earth (●) with some structure (□), connection (§), and a question (?): "*We are here and seeking contact*"

● → □ - We (●), actions (→), structures (□) = we know how to create, build, meaning we are intelligent.

⁂□●§●§● - Complex (⁂) structures (□) with many interconnected objects (●§●§●) = we have a complex civilization, created artificially (technological progress)

↓!§? - Decreasing (↓), threats and dangers (!), connection (§), information request (?) = we request a signal with peaceful intentions